

Appendix A - 1

Preliminary Environmental Observations and Evaluations

Table T - 1 Preliminary Environmental Observations

Alternate	Relocations	Travel Patterns	Community Cohesion	Public Utilities	Noise	Possible Hazardous Sites	Remarks	Const. Cost Estimate
A-1	None	S: 3.3 km (2 miles) increase	M: passes along edge of Village. South side is farms.	Some : Electrical transmission lines and substation.	S: higher at 12 homes	None	Design speed is 60 km/h (40 mph) at curve. Indirect, inefficient route to Route 1. Too far south to serve Village of Tilton.	\$ 14,813,640
A-2	None	S: 0.3 km (0.2 miles) increase	N: no change from current patterns	None	N: no change	None	Design speed is 40 km/h (20 mph) at curve. Indirect, inefficient route to Route 1.	\$ 246,120
A-3	None	S: 0.3 km (0.2 miles) increase	N: no change from current patterns	None	N: no change	None	Design speed is 40 km/h (20 mph) at curve. Indirect, inefficient route to Route 1.	\$ 577,800
B-1	S: 4 residences 2 commercial	S: 0.3 km (0.2 miles) increase	S: passes thru residential neighborhood	None	S: higher at 12 homes	None	Design speed is only 40 km/h (20 mph) at curve. Indirect, inefficient route to Route 1.	\$ 4,128,167
B-2	S: 11 residences 2 commercial	S: 0.3 km (0.2 miles) increase	M: passes between I-74 & residential neighborhood	None	N: no change	None	Design speed is 60 km/h (40 mph). Lines up with West 14th Street ramp at Route 1.	\$ 5,299,674
B-3	S: 9 residences 3 commercial	N: no change from current patterns	N: no change from current patterns	Minimal: Must build retaining wall in front of church.	N: no change	Some : 1 propane gas and 2 fuel oil facilities.	Design speed is only 40 km/h (20 mph) at curve.	\$ 6,351,762
B-4	S: 5 residences 0 commercial	N: no change from current patterns	N: no change from current patterns	Minimal: Must build retaining wall in front of church.	N: no change	Some : 1 propane gas and 2 fuel oil facilities.	Design speed is 60 km/h (40 mph). Most direct route to Route 1.	\$ 5,591,050

Potential Concern : H = High, S = Some, M = Minimal, N = None

ESTIMATE OF CONSTRUCTION COST

ALTERNATE A - 1

ITEM	QUANTITY	UNIT	UNIT COST	EXTENTION
EXCAVATION	25,000	cu m	\$ 6.00	\$ 150,000
EMBANKMENT	90,000	cu m	\$ 10.00	\$ 900,000
PAVEMENT REMOVAL	2,160	sq m	\$ 5.00	\$ 10,800
PAVEMENT	33,000	sq m	\$ 42.00	\$ 1,386,000
CURB AND GUTTER	66,000	m	\$ 56.00	\$ 3,696,000
SIDEWALK	0	sq m	\$ 43.00	\$ -
SOD AND TOPSOIL	200,000	sq m	\$ 5.60	\$ 1,120,000
DRAINAGE STRUCTURES	1,000	each	\$ 1,165.00	\$ 1,165,000
STORM SEWER, 300	3,000	m	\$ 78.00	\$ 234,000
STORM SEWER, 375	3,000	m	\$ 82.00	\$ 246,000
STORM SEWER, 450	3,000	m	\$ 86.00	\$ 258,000
STORM SEWER, 525	3,000	m	\$ 95.00	\$ 285,000
STORM SEWER, 600	3,000	m	\$ 97.00	\$ 291,000
STORM SEWER, 675	3,000	m	\$ 114.00	\$ 342,000
STORM SEWER, 750	3,000	m	\$ 128.00	\$ 384,000
STORM SEWER, 825	3,000	m	\$ 136.00	\$ 408,000
REINFORCED EARTH	0	m	\$ 500.00	\$ -
TRAFFIC SIGNALS	1	lump sum	\$ 100,000.00	\$ 100,000
BRIDGE STRUCTURE (over creek & RR)	1,690	sq m	\$ 810.00	\$ 1,368,900
RESIDENCE RELOCATION	0	each	\$ 77,500.00	\$ -
COMMERCIAL RELOCATION	0	each	\$ 70,000.00	\$ -
SUBTOTAL				\$ 12,344,700
CONTINGENCY (20%)				\$ 2,468,940
GRAND TOTAL				\$ 14,813,640

ESTIMATE OF CONSTRUCTION COST

ALTERNATE, A - 2

ITEM	QUANTITY	UNIT	UNIT COST	EXTENTION
EXCAVATION	0	cu m	\$ 6.00	\$ -
EMBANKMENT	0	cu m	\$ 10.00	\$ -
PAVEMENT REMOVAL	200	sq m	\$ 5.00	\$ 1,000
PAVEMENT	1,000	sq m	\$ 42.00	\$ 42,000
CURB AND GUTTER	2,000	m	\$ 56.00	\$ 112,000
SIDEWALK	0	sq m	\$ 43.00	\$ -
SOD AND TOPSOIL	2,000	sq m	\$ 5.60	\$ 11,200
DRAINAGE STRUCTURES	20	each	\$ 1,165.00	\$ 23,300
STORM SEWER, 300	200	m	\$ 78.00	\$ 15,600
STORM SEWER, 375	0	m	\$ 82.00	\$ -
STORM SEWER, 450	0	m	\$ 86.00	\$ -
STORM SEWER, 525	0	m	\$ 95.00	\$ -
STORM SEWER, 600	0	m	\$ 97.00	\$ -
STORM SEWER, 675	0	m	\$ 114.00	\$ -
STORM SEWER, 750	0	m	\$ 128.00	\$ -
STORM SEWER, 825	0	m	\$ 136.00	\$ -
REINFORCED EARTH	0	m	\$ 500.00	\$ -
TRAFFIC SIGNALS	0	lump sum	\$ 100,000.00	\$ -
BRIDGE STRUCTURE (over creek & RR)	0	sq m	\$ 810.00	\$ -
RESIDENCE RELOCATION	0	each	\$ 77,500.00	\$ -
COMMERCIAL RELOCATION	0	each	\$ 70,000.00	\$ -
SUBTOTAL				\$ 205,100
CONTINGENCY (20%)				\$ 41,020
GRAND TOTAL				\$ 246,120

ESTIMATE OF CONSTRUCTION COST

ALTERNATE A - 3

ITEM	QUANTITY	UNIT	UNIT COST	EXTENTION
EXCAVATION	1,000	cu m	\$ 6.00	\$ 6,000
EMBANKMENT	0	cu m	\$ 10.00	\$ -
PAVEMENT REMOVAL	500	sq m	\$ 5.00	\$ 2,500
PAVEMENT	6,000	sq m	\$ 42.00	\$ 252,000
CURB AND GUTTER	1,200	m	\$ 56.00	\$ 67,200
SIDEWALK	0	sq m	\$ 43.00	\$ -
SOD AND TOPSOIL	6,000	sq m	\$ 5.60	\$ 33,600
DRAINAGE STRUCTURES	30	each	\$ 1,165.00	\$ 34,950
STORM SEWER, 300	250	m	\$ 78.00	\$ 19,500
STORM SEWER, 375	250	m	\$ 82.00	\$ 20,500
STORM SEWER, 450	250	m	\$ 86.00	\$ 21,500
STORM SEWER, 525	250	m	\$ 95.00	\$ 23,750
STORM SEWER, 600	0	m	\$ 97.00	\$ -
STORM SEWER, 675	0	m	\$ 114.00	\$ -
STORM SEWER, 750	0	m	\$ 128.00	\$ -
STORM SEWER, 825	0	m	\$ 136.00	\$ -
REINFORCED EARTH	0	m	\$ 500.00	\$ -
TRAFFIC SIGNALS	0	lump sum	\$ 100,000.00	\$ -
BRIDGE STRUCTURE (over creek & RR)	0	sq m	\$ 810.00	\$ -
RESIDENCE RELOCATION	0	each	\$ 77,500.00	\$ -
COMMERCIAL RELOCATION	0	each	\$ 70,000.00	\$ -
SUBTOTAL				
CONTINGENCY (20%)			\$	481,500
			\$	96,300
GRAND TOTAL				\$ 577,800

ESTIMATE OF CONSTRUCTION COST

ALTERNATE B - 1

ITEM	QUANTITY	UNIT	UNIT COST	EXTENTION
EXCAVATION	1300	cu m	\$ 6.00	\$ 7,800
EMBANKMENT	90,000	cu m	\$ 10.00	\$ 900,000
PAVEMENT REMOVAL	2,160	sq m	\$ 5.00	\$ 10,800
PAVEMENT	8,078	sq m	\$ 42.00	\$ 339,276
CURB AND GUTTER	1496	m	\$ 56.00	\$ 83,776
SIDEWALK	0	sq m	\$ 43.00	\$ -
SOD AND TOPSOIL	25,920	sq m	\$ 5.60	\$ 145,152
DRAINAGE STRUCTURES	51	each	\$ 1,165.00	\$ 59,415
STORM SEWER, 300	420	m	\$ 78.00	\$ 32,760
STORM SEWER, 375	250	m	\$ 82.00	\$ 20,500
STORM SEWER, 450	50	m	\$ 86.00	\$ 4,300
STORM SEWER, 525	0	m	\$ 95.00	\$ -
STORM SEWER, 600	180	m	\$ 97.00	\$ 17,460
STORM SEWER, 675	0	m	\$ 114.00	\$ -
STORM SEWER, 750	0	m	\$ 128.00	\$ -
STORM SEWER, 825	0	m	\$ 136.00	\$ -
REINFORCED EARTH	0	m	\$ 500.00	\$ -
TRAFFIC SIGNALS	0	lump sum	\$ 100,000.00	\$ -
BRIDGE STRUCTURE (over Tilton & RR)	1690	sq m	\$ 810.00	\$ 1,368,900
RESIDENCE RELOCATION	4	each	\$ 77,500.00	\$ 310,000
COMMERCIAL RELOCATION	2	each	\$ 70,000.00	\$ 140,000
SUBTOTAL				\$ 3,440,139
CONTINGENCY (20%)				\$ 688,028
GRAND TOTAL				\$ 4,128,167

ESTIMATE OF CONSTRUCTION COST

ALTERNATE B - 2

ITEM	QUANTITY	UNIT	UNIT COST	EXTENTION
EXCAVATION	25000	cu m	\$ 6.00	\$ 150,000
EMBANKMENT	85000	cu m	\$ 10.00	\$ 850,000
PAVEMENT REMOVAL	4860	sq m	\$ 5.00	\$ 24,300
PAVEMENT	10800	sq m	\$ 42.00	\$ 453,600
CURB AND GUTTER	2000	m	\$ 56.00	\$ 112,000
SIDEWALK	0	sq m	\$ 43.00	\$ -
SOD AND TOPSOIL	40000	sq m	\$ 5.60	\$ 224,000
DRAINAGE STRUCTURES	49	each	\$ 1,165.00	\$ 57,085
STORM SEWER, 300	570	m	\$ 78.00	\$ 44,460
STORM SEWER, 375	200	m	\$ 82.00	\$ 16,400
STORM SEWER, 450	100	m	\$ 86.00	\$ 8,600
STORM SEWER, 525	0	m	\$ 95.00	\$ -
STORM SEWER, 600	150	m	\$ 97.00	\$ 14,550
STORM SEWER, 675	0	m	\$ 114.00	\$ -
STORM SEWER, 750	0	m	\$ 128.00	\$ -
STORM SEWER, 825	0	m	\$ 136.00	\$ -
REINFORCED EARTH	0	sq m	\$ 500.00	\$ -
TRAFFIC SIGNALS	1	lump sum	\$ 100,000.00	\$ 100,000
BRIDGE STRUCTURE (over TILTON & RR	1690	sq m	\$ 810.00	\$ 1,368,900
RESIDENCE RELOCATION	11	each	\$ 77,500.00	\$ 852,500
COMMERCIAL RELOCATION	2	each	\$ 70,000.00	\$ 140,000
SUBTOTAL				\$ 4,416,395
CONTINGENCY (20%)				\$ 883,279
GRAND TOTAL				\$ 5,299,674

ESTIMATE OF CONSTRUCTION COST

ALTERNATE B - 3

ITEM	QUANTITY	UNIT	UNIT COST	EXTENTION
EXCAVATION	2600	cu m	\$ 6.00	\$ 15,600
EMBANKMENT	180000	cu m	\$ 10.00	\$ 1,800,000
PAVEMENT REMOVAL	8640	sq m	\$ 5.00	\$ 43,200
PAVEMENT	13500	sq m	\$ 42.00	\$ 567,000
CURB AND GUTTER	2500	m	\$ 56.00	\$ 140,000
SIDEWALK	0	sq m	\$ 43.00	\$ -
SOD AND TOPSOIL	60000	sq m	\$ 5.60	\$ 336,000
DRAINAGE STRUCTURES	53	each	\$ 1,165.00	\$ 61,745
STORM SEWER, 300	580	m	\$ 78.00	\$ 45,240
STORM SEWER, 375	200	m	\$ 82.00	\$ 16,400
STORM SEWER, 450	150	m	\$ 86.00	\$ 12,900
STORM SEWER, 525	0	m	\$ 95.00	\$ -
STORM SEWER, 600	150	m	\$ 97.00	\$ 14,550
STORM SEWER, 675	0	m	\$ 114.00	\$ -
STORM SEWER, 750	0	m	\$ 128.00	\$ -
STORM SEWER, 825	0	m	\$ 136.00	\$ -
RINFORCED EARTH (@CHURCH)	560	sq m	\$ 500.00	\$ 280,000
TRAFFIC SIGNALS	0	lump sum	\$ 100,000.00	\$ -
BRIDGE STRUCTURE (2 over RRs)	1300	sq m	\$ 810.00	\$ 1,053,000
RESIDENCE RELOCATION	9	each	\$ 77,500.00	\$ 697,500
COMMERCIAL RELOCATION	3	each	\$ 70,000.00	\$ 210,000
SUBTOTAL				\$ 5,293,135
CONTINGENCY (20%)				\$ 1,058,627
GRAND TOTAL				\$ 6,351,762

ESTIMATE OF CONSTRUCTION COST

ALTERNATE B-4 (2 LANE BRIDGE ACCESS TO BULK OIL)

ITEM	QUANTITY	UNIT	UNIT COST	EXTENTION
EXCAVATION	2600	cu m	\$ 6.00	\$ 15,600
EMBANKMENT	60000	cu m	\$ 10.00	\$ 600,000
PAVEMENT REMOVAL	8388	sq m	\$ 5.00	\$ 41,940
PAVEMENT	13417	sq m	\$ 42.00	\$ 563,514
CURB AND GUTTER	2380	m	\$ 56.00	\$ 133,280
SIDEWALK	0	sq m	\$ 43.00	\$ -
SOD AND TOPSOIL	32100	sq m	\$ 5.60	\$ 179,760
DRAINAGE STRUCTURES	56	each	\$ 1,165.00	\$ 65,240
STORM SEWER, 300	630	m	\$ 78.00	\$ 49,140
STORM SEWER, 375	200	m	\$ 82.00	\$ 16,400
STORM SEWER, 450	100	m	\$ 86.00	\$ 8,600
STORM SEWER, 600	150	m	\$ 97.00	\$ 14,550
BRIDGE STRUCTURE (2 over RRs)	1300	sq m	\$ 810.00	\$ 1,053,000
REINF. EARTH RETAINING WALLS	3880	sq m	\$ 250.00	\$ 970,000
TRAFFIC SIGNALS	1	lump sum	\$ 100,000.00	\$ 100,000
ROW COSTS	1	lump sum	\$ 443,300.00	\$ 443,300
Box Culvert	1	lump sum	\$ 230,000.00	\$ 230,000
RESIDENCE RELOCATION	5	each	\$ 77,500.00	\$ 387,500
COMMERCIAL RELOCATION	0	each	\$ 70,000.00	\$ -
RAMP A & B DEDUCTION	1	lump sum	\$ (676,320.00)	\$ (676,320)
FORREST STREET IMPROVEMENTS	1	lump sum	\$ 463,704.00	\$ 463,704
SUBTOTAL				\$ 4,659,208
CONTINGENCY (20%)				\$ 931,842
GRAND TOTAL				\$ 5,591,050